



Office of the  
Chief Information Officer

DN 3300-021

USDA Internet Protocol Version 6 (IPv6) Transition

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U.S. DEPARTMENT OF AGRICULTURE  
WASHINGTON, D.C. 20250

<b>DEPARTMENTAL NOTICE</b>		<b>Number:</b> 3300-021
<b>SUBJECT:</b> USDA Internet Protocol Version 6 (Ipv6) Transition Policy	<b>DATE:</b> September 29, 2006	
	<b>OPI:</b> Office of the Chief Information Officer, Telecommunications Management Division	
<b>CODIFICATION/EXPIRATION:</b> This Notice will expire one year from the date it is signed, unless rescinded or canceled earlier.		

## 1 PURPOSE

On August 2, 2005, the Office of Management and Budget (OMB) issued Memorandum M-05-22<sup>1</sup> requiring that all Agencies ensure that their enterprise backbone wide area networks are: 1) operating a dual stack network core supporting both Internet Protocols Version 4 (IPv4) and Version 6 (IPv6); 2) utilizing tunneling whereby IPv6 packets are encapsulated for transmission over IPv4 networks and visa versa, or; 3) translating IPv4 protocols to IPv6 protocols and visa versa, by June 2008.

In anticipation of meeting the 2008 deadline, USDA is issuing this policy to identify USDA roles and responsibilities for planning and implementing the transition of the Universal Telecommunications Network (UTN) in accordance with OMB guidance.

## 2 SPECIAL INSTRUCTIONS/CANCELLATION

This notice is effective immediately.  
Departmental Regulation 3300-001 will be revised to reflect this new policy.  
A new Departmental Manual 3300-001 will be constructed to incorporate new Roles and Responsibilities.

## 3 POLICY

The United States Department of Agriculture (USDA) Chief Information Officer (CIOs) will manage the IPv6 transition process within USDA and ensure that all new IT procurements are IPv6 compliant and IPv4 backward compatible in compliance with M-05-22. Specifically, any new IP product or system that

<sup>1</sup> Evans, Karen. (2005, August 2). Transition Planning for Internet Protocol Version 6 (IPv6). *Memorandum for the Chief Information Officers*. Executive Office of the President: Office of Management and Budget. Washington, D.C.

integrates or interfaces with the USDA network backbone must support both IPv6 and IPv4 protocols.

Agency and Staff Office CIOs, or Lead Technical Officers will establish formal internal review processes to ensure that all IT acquisitions are IPv6 compatible and IPv4 backward compatible according to M-05-22, effective December 31, 2006.

#### 4 BACKGROUND

On June 29, 2005, at a hearing before the House Government Reform Committee, the OMB Administrator for the Office of E-Government and Information Technology announced that the government would transition from IPv4 to IPv6 by June 2008. Subsequently, on August 2, 2005, OMB issued Memorandum M-05-22, "Transition Planning for Internet Protocol Version 6 (IPv6)" to the chief information officers of the federal agencies assigning actions and associated schedules for the transition. As a result, USDA designated the Associate Chief Information Officer (ACIO) for Telecommunications as the Executive lead to expedite this process, and established a working group made up of representatives from each agency and staff office to assist with the transition.

#### 5 SCOPE

This notice applies to all USDA agency and staff office personnel including non-government personnel authorized to request and/or make IT procurements. It applies to all IT devices, services and technologies that use or rely on IP technologies.

The Scope of the IPv6 transition effort is described in the CIO Council Architecture and Infrastructure Committee IPv6 Transition Planning Document, Chapter 3 on Governance. It states: "OMB Memorandum 05-22 directs agencies to begin transitioning their network backbones to IPv6 by ensuring their network backbones are capable of processing IPv6 network addresses and passing IPv6 traffic. The 'backbone' includes the WAN up to the LAN point of demarcation. The LAN demarcation point is the device (e.g. router, switch) that services the workstations.

Existing applications, peripherals, and other IT assets that are not elements of the network backbone transition are not required to be IPv6 capable for the June 2008 deadline."

## 6 REFERENCES

US Congress, Information Technology Management Reform Act (ITMRA or the Clinger-Cohen Act) 1996.

OMB memo on Transition Planning for Internet Protocol Version 6 (IPv6)  
<http://www.whitehouse.gov/omb/memoranda/fy2005/m05-22.pdf>

CIO Council Architecture and Infrastructure Committee memo – IPv6 Transition Planning Document, Chapter 3, Page 6, Section 2.1.1.

CIO Council memo - Integrating IPv6 into Agency Enterprise Architecture Planning.  
<http://cio.gov/documents/Integrating IPv6 into Agency EA Planning.doc>

## 7 DEFINITIONS

Acquisition Approval Process. USDA's Information Technology (IT) approval process administered by the Office of the Chief Information Officer for IT purchases exceeding \$25,000.

## 8 ROLES AND RESPONSIBILITIES

a The ACIO for Telecommunications will:

- (1) Lead the Department in the transition of the Universal Telecommunications Network (UTN) enterprise backbone network to an infrastructure that fully supports both IPv4 and IPv6 protocols by June 2008.
- (2) Establish and facilitate a Departmental working group made up of representatives for each agency and staff office to assist with the transition of the Department to IPv6.
- (3) Establish Department-wide acquisition processes in cooperation with the Office of Procurement and Property Management (OPPM) for IPv6 products and services.
  - (a) Provide customer support to agencies and staff offices in cooperation with the OPPM regarding Department-level contracts for IPv6 products and services as applicable.

- (b) Make information available regarding UTN services and the associated pricing.
- (4) Oversee agencies with regard to USDA IPv6 planning and implementation.
- (5) Acquire, assign and manage all IPv6 addresses for USDA agencies.
- (6) Coordinate the submission of IPv6 deliverables to OMB on behalf of the Department.
  - (a) Inventory Report
  - (b) Impact Analysis
  - (c) Transition Plan
  - (d) Identification of changes to the network topology
  - (e) Identification of changes needed for interoperability
  - (f) Documentation of changes to standards
  - (g) Help for the Information Resources Management (IRM) group to describe dependencies within and changes to the Enterprise Architecture (EA)
- (7) Ensure that the UTN vendor completes Certification and Accreditation (C&A) of all new IPv6 components of the UTN and resolves any material weaknesses.
- b The ACIO for Information Resources Management will:
  - (1) Update the Capital Planning and Investment Control (CPIC) Guide documenting the transition to IPv6 as a clearly established requirement for IT investments.
  - (2) Update the waiver process, requiring agencies to clearly describe infrastructure compatibility with IPv6 on all IT investments over \$25,000.
  - (3) Generate reports that identify investments that should be included in the IPv6 transition based on analysis of agency data in the Enterprise Architecture repository.
  - (4) Submit quarterly EA assessments
    - (a) Include deliverables from TSO, including:

- 1 Inventory Report
- 2 Impact Analysis
- 3 Transition Plan

(b) Describe changes to the agencies IT investment portfolio based on the transition

(c) Describe the impact of IPv6 on each layer of the EA model

(d) Update the technical architecture with IPv6 inventory

(e) Document application dependencies on IPv6

(5) Update EA governance and management documents to reflect the transition to IPv6

c The ACIO for Cyber Security will:

(1) Provide documentation to the Associate CIO for Telecommunications on the security and privacy impacts and risks of transitioning to IPv6 according to the schedule required by OMB.

(2) Provide documentation to the Associate CIO for Telecommunications regarding changes to network security standards, configurations and security policies resulting from the transition from IPv4 to IPv6.

(3) Provide documentation to the Associate CIO for Telecommunications for IPv6 security issues that need to be incorporated into the USDA Enterprise Architecture (EA).

(4) Ensure that all necessary C&A activities are completed for all components and any security issues are addressed and corrected.

d Agencies and Staff Offices will:

(1) Assign a representative to participate on behalf of the agency or staff office in the Departmental IPv6 working group, established by OCIO.

(2) Provide inventory data and impact assessments including costs and risks associated with the transition of agency infrastructure to IPv6 in accordance with OCIO requests.

(3) Establish formal, internal review processes to ensure that all new IT acquisitions are both IPv6 compatible and IPv4 backward compatible,

effective December 1, 2006 and submit a waiver request to the Associate CIO for Telecommunications for exceptions.

- (4) Coordinate IPv6 planning internally and with other Agencies and Staff Offices to reduce duplication of effort and control costs, enhance interoperability, and improve services and capabilities. Agencies shall acquire or use IPv6/IPv4 dual protocol technologies in a manner that promotes interoperability among Agencies and the Department through the use of industry and Government standards. Leveraging volume for discounts is encouraged. The USDA Technical Review Board will facilitate discussion between the agencies, provide guidance to agencies, and enforce compliance regarding interoperability and joint planning.
- (5) Contact OCIO, TSO to receive an allocation of IPv6 addresses. Agencies are prohibited from acquiring IPv6 addresses directly unless delegated the authority from the Associate CIO for Telecommunications.

## 9 INQUIRIES

Direct all questions concerning this notice to the Telecommunications Management Division (TMD), Telecommunications Services and Operations, Office of the Chief Information Officer. Phone: 202-694-5980.

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